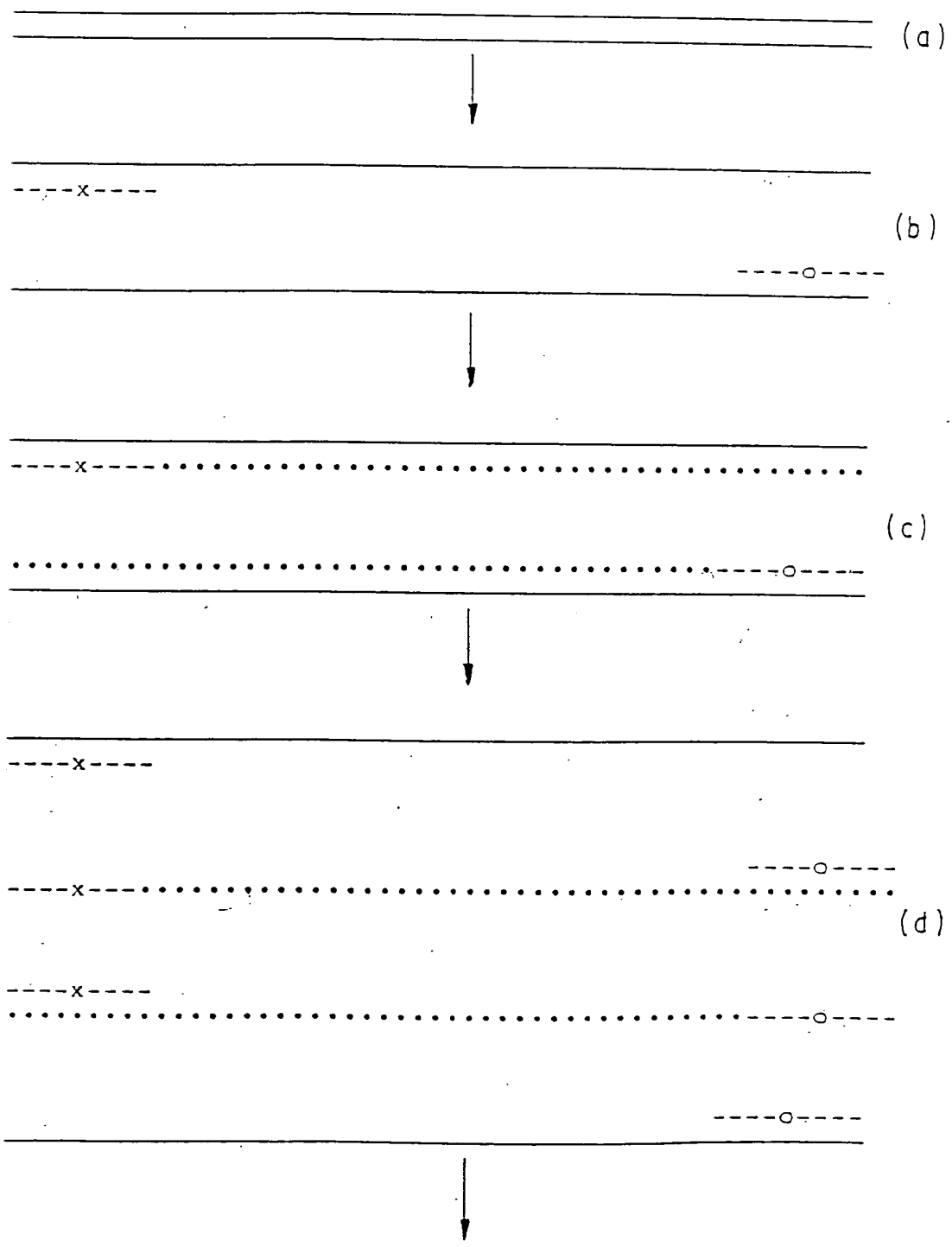


FIGURE 1

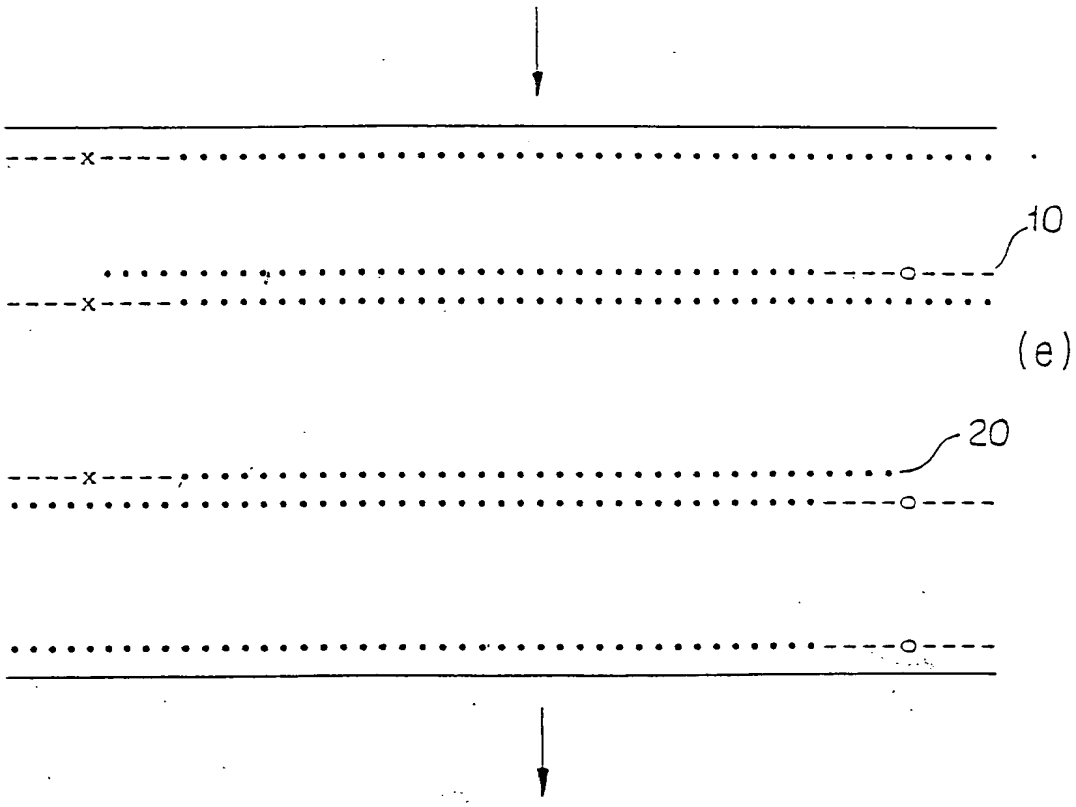


FIGURE 2

FIGURE 3

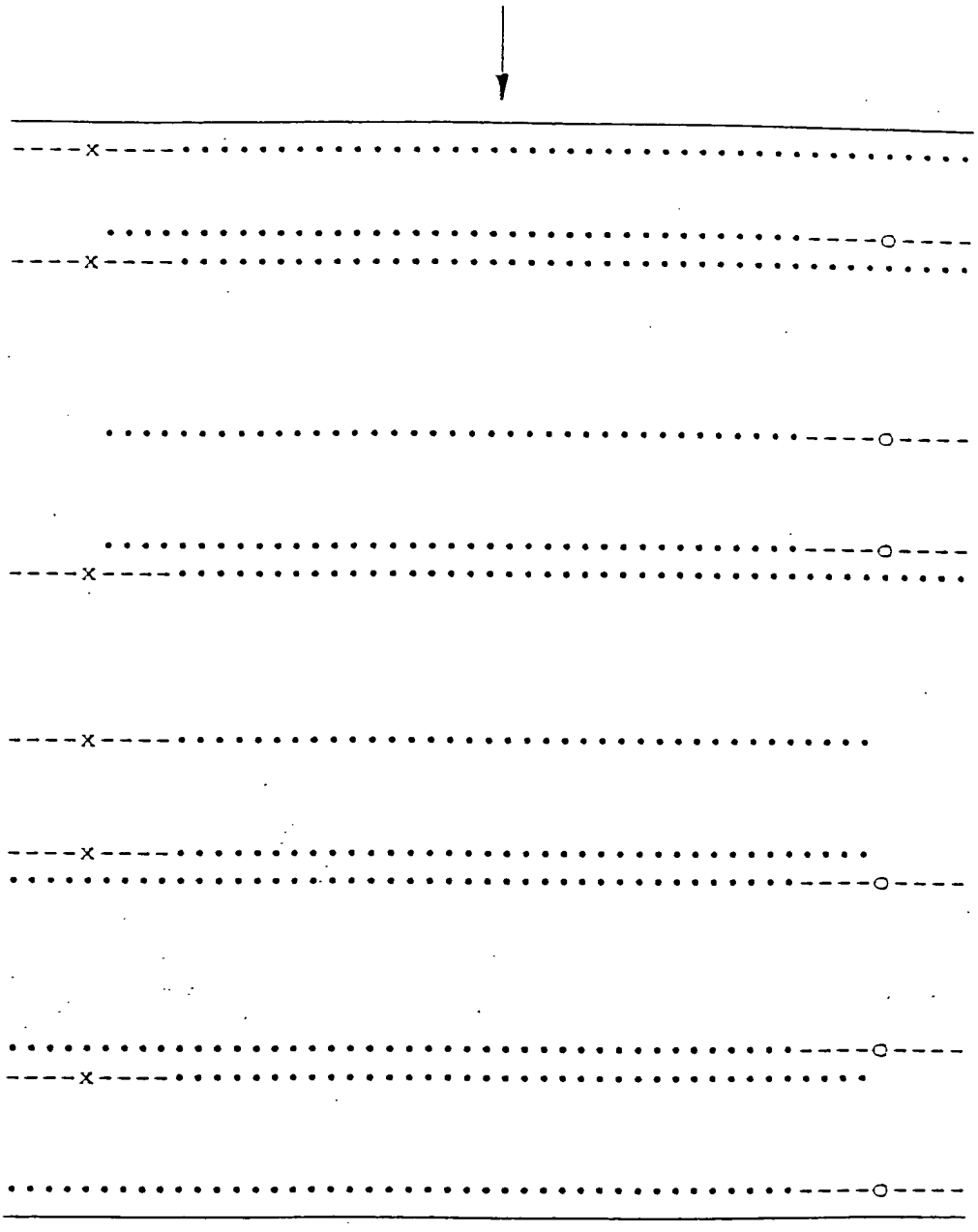


FIGURE 4

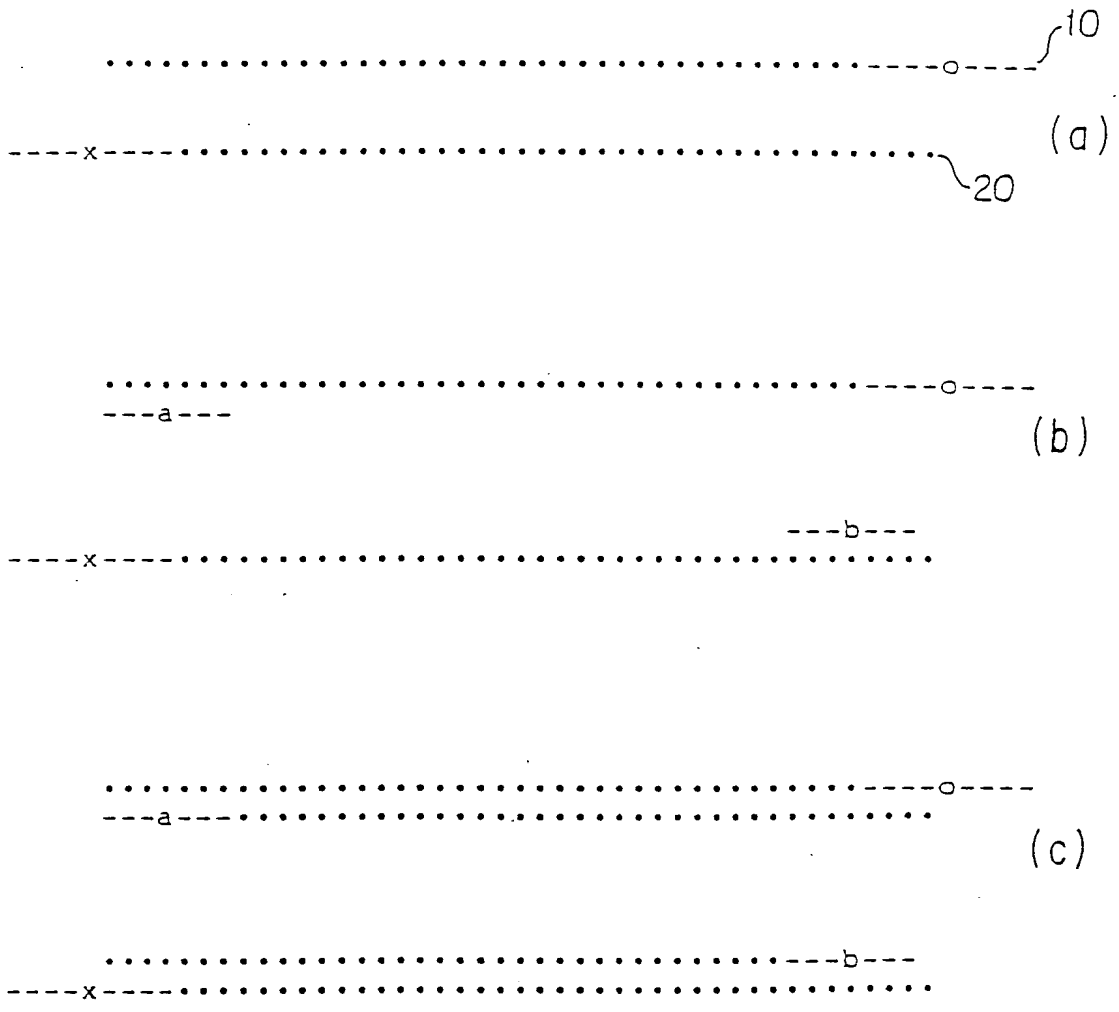


FIGURE 5

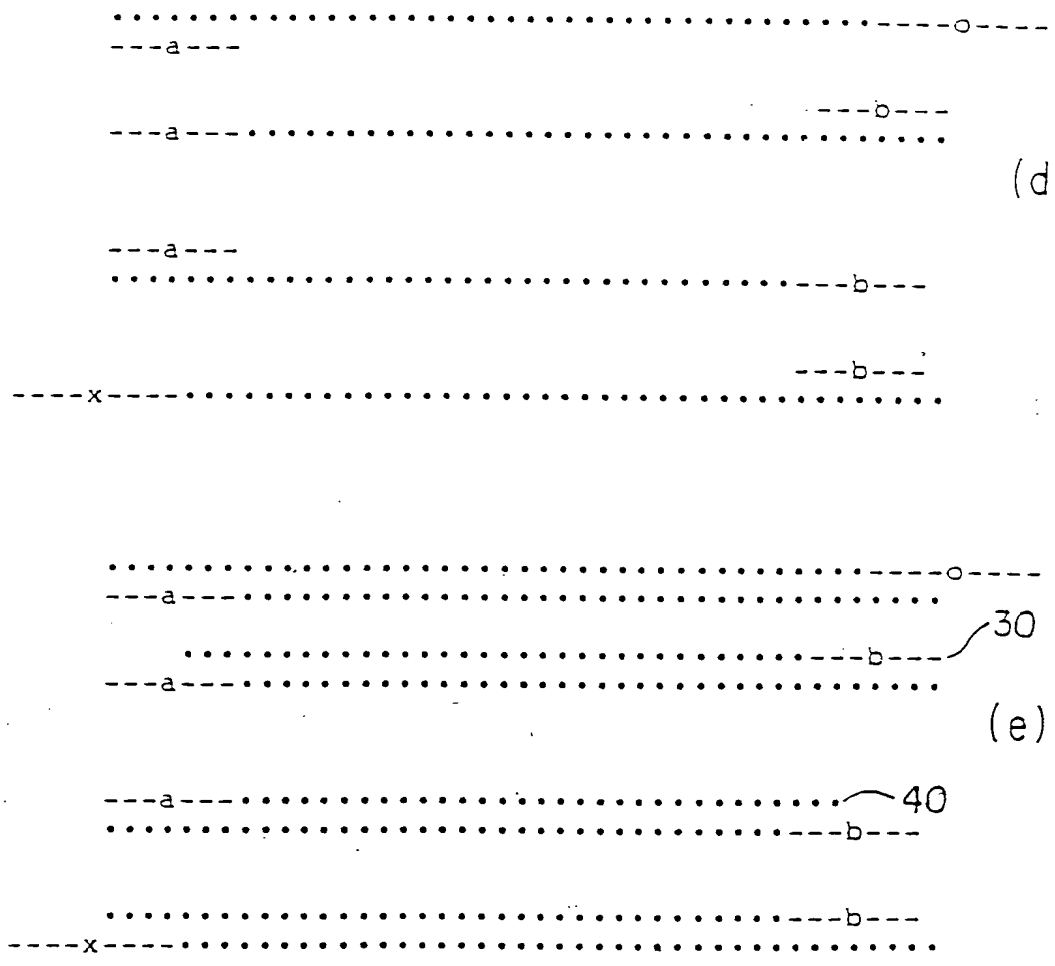


FIGURE 6

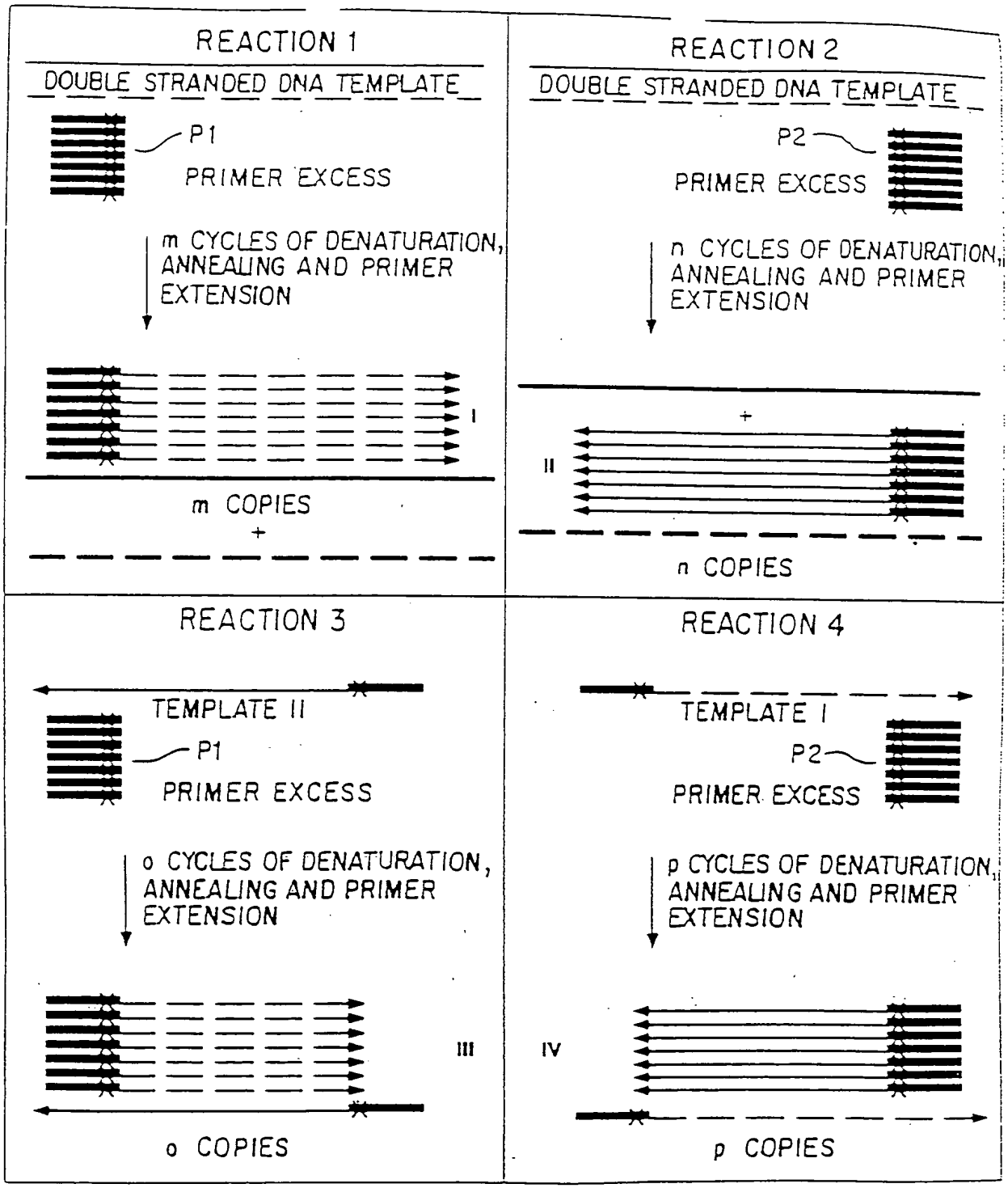

REACTION 1
DOUBLE STRANDED DNA TEMPLATE
P1
PRIMER EXCESS
m CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
I
m COPIES
+
REACTION 2
DOUBLE STRANDED DNA TEMPLATE
P2
PRIMER EXCESS
n CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
+
II
n COPIES
REACTION 3
TEMPLATE II
P1
PRIMER EXCESS
o CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
III
o COPIES
REACTION 4
TEMPLATE I
P2
PRIMER EXCESS
p CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
IV
p COPIES

FIGURE 7

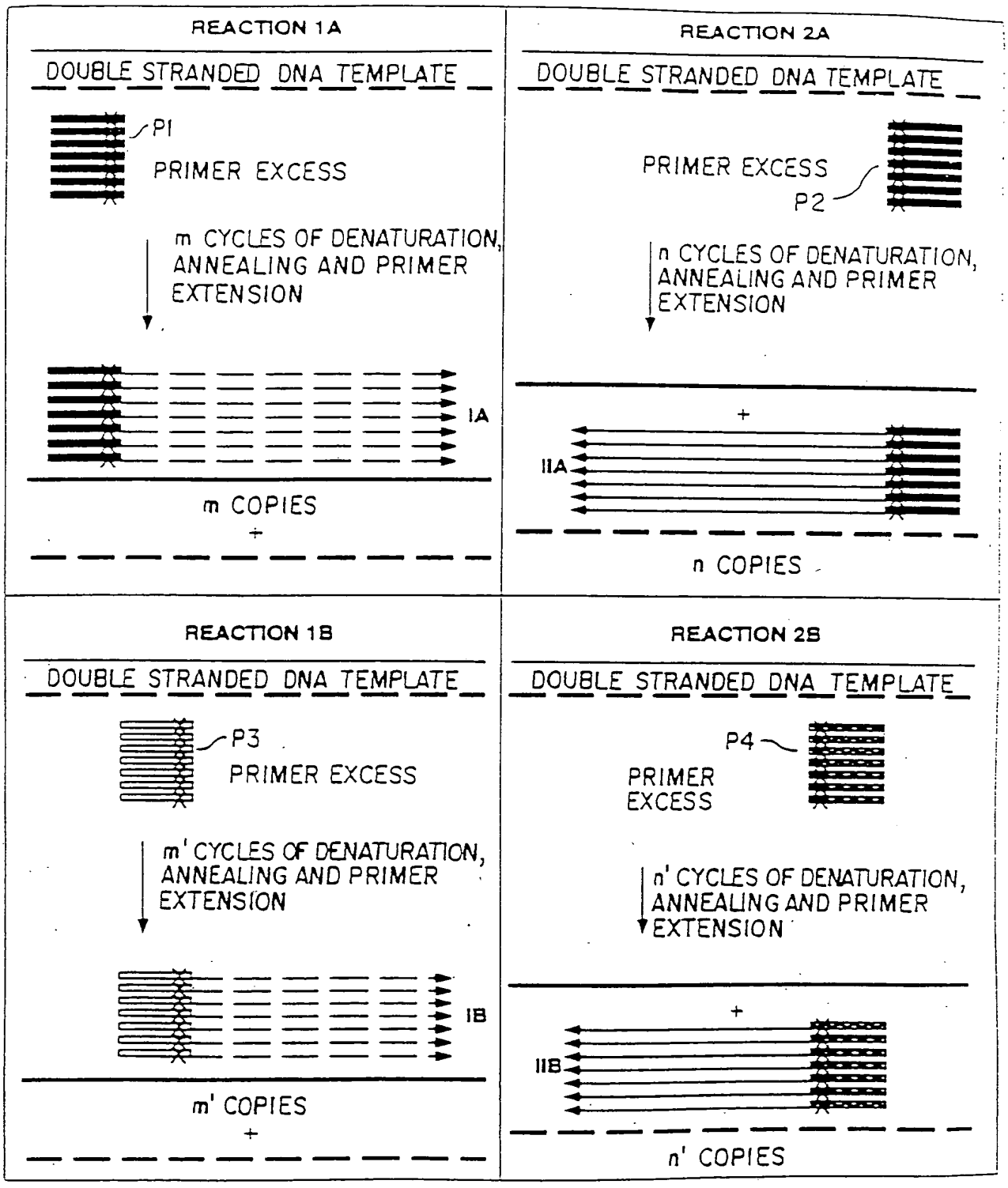

REACTION 1A
DOUBLE STRANDED DNA TEMPLATE
P1
PRIMER EXCESS
m CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
1A
m COPIES
+
REACTION 2A
DOUBLE STRANDED DNA TEMPLATE
PRIMER EXCESS
P2
n CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
+
IIA
n COPIES
REACTION 1B
DOUBLE STRANDED DNA TEMPLATE
P3
PRIMER EXCESS
m' CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
1B
m' COPIES
+
REACTION 2B
DOUBLE STRANDED DNA TEMPLATE
P4
PRIMER EXCESS
n' CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
+
IIB
n' COPIES

FIGURE 8

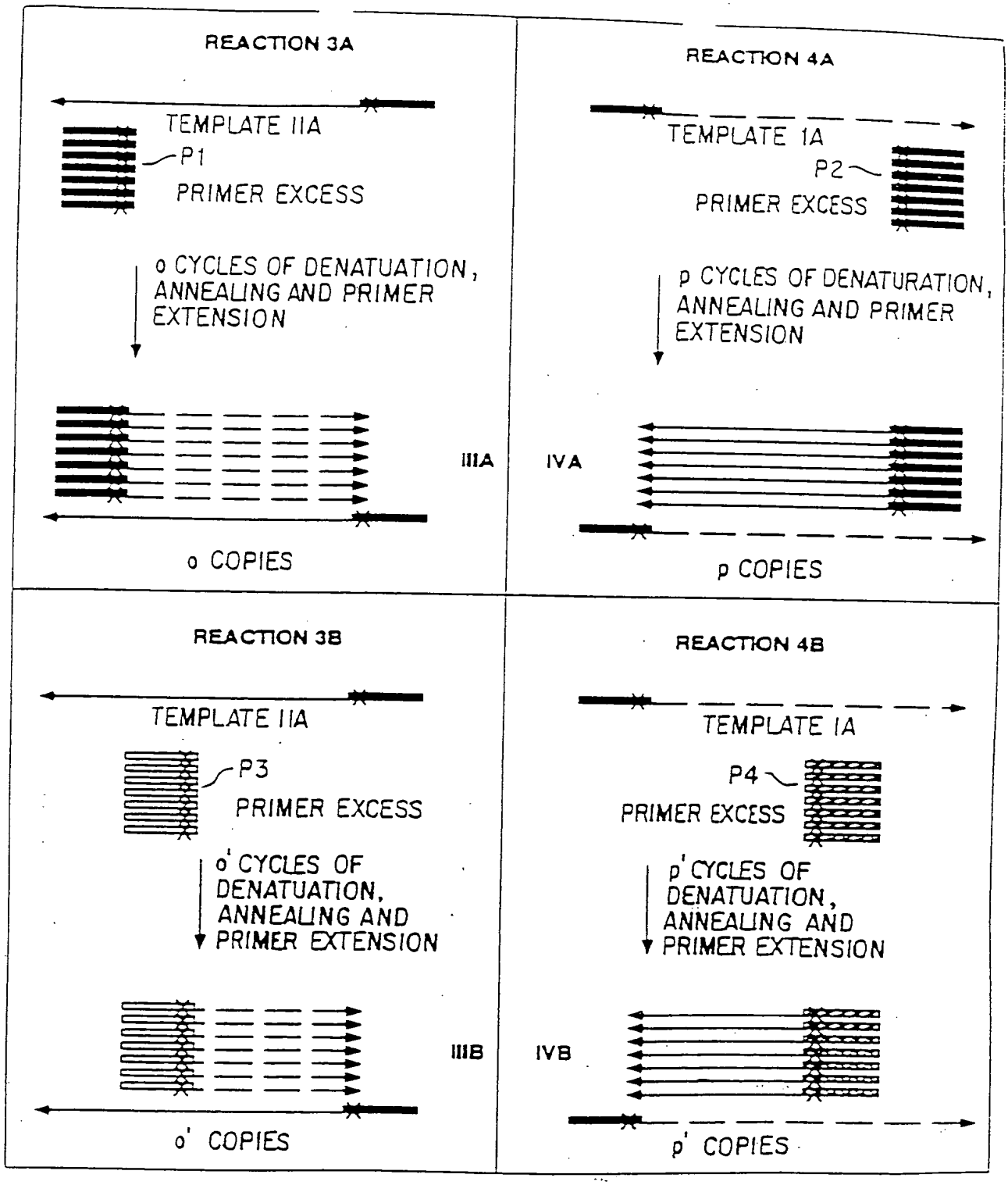

REACTION 3A
TEMPLATE IIA
P1
PRIMER EXCESS
o CYCLES OF DENATUATION, ANNEALING AND PRIMER EXTENSION
IIIA
o COPIES
REACTION 4A
TEMPLATE 1A
P2
PRIMER EXCESS
p CYCLES OF DENATURATION, ANNEALING AND PRIMER EXTENSION
IVA
p COPIES
REACTION 3B
TEMPLATE IIA
P3
PRIMER EXCESS
o' CYCLES OF DENATUATION, ANNEALING AND PRIMER EXTENSION
IIIB
o' COPIES
REACTION 4B
TEMPLATE IA
P4
PRIMER EXCESS
p' CYCLES OF DENATUATION, ANNEALING AND PRIMER EXTENSION
IVB
p' COPIES

FIGURE 9

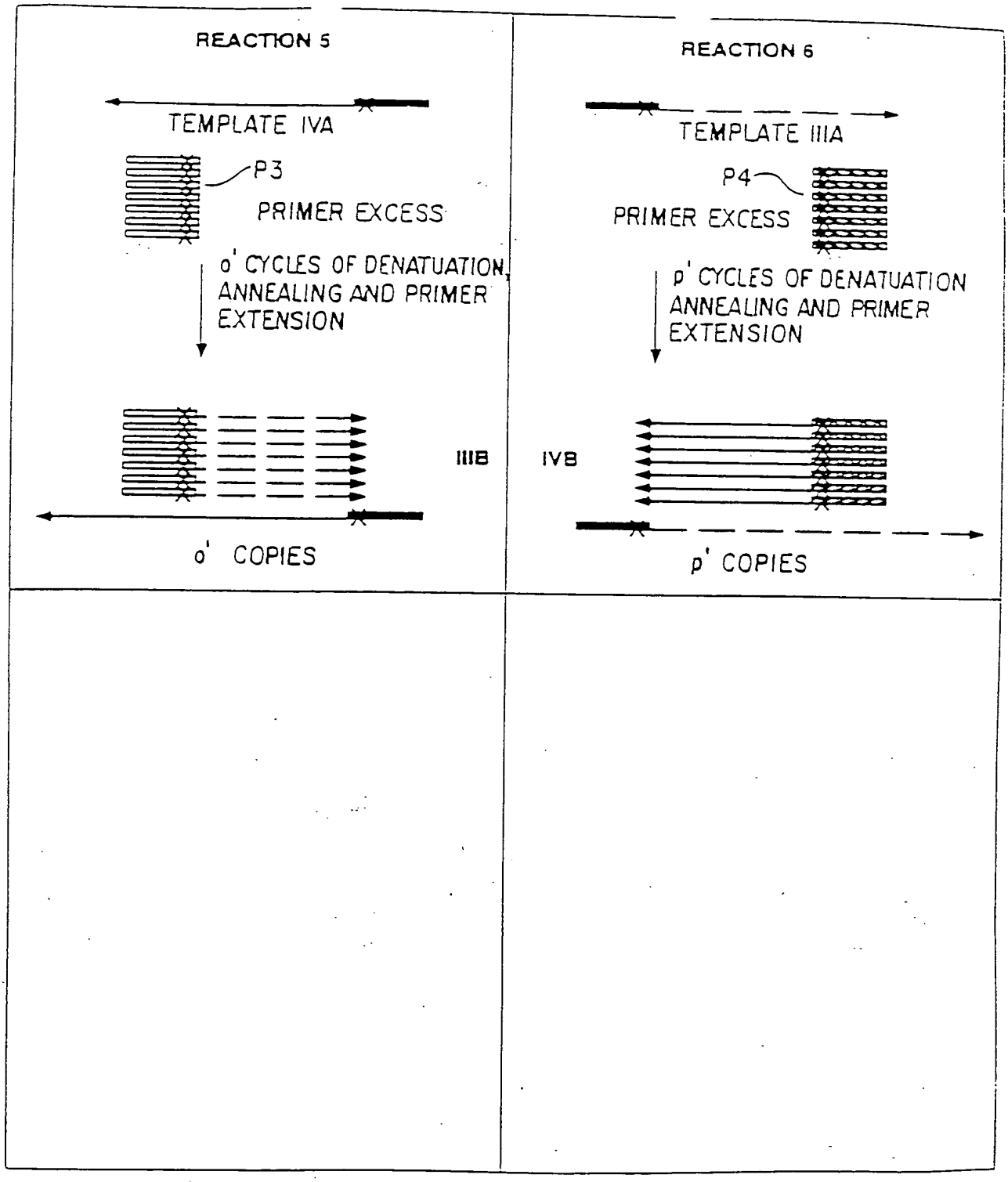
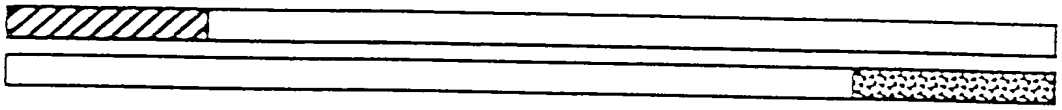
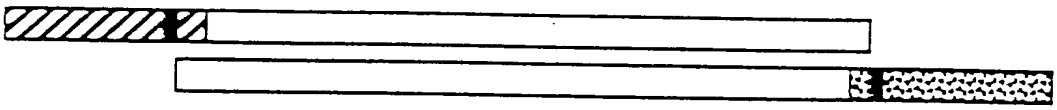

REACTION 5
TEMPLATE IVA
P3
PRIMER EXCESS
o' CYCLES OF DENATUATION, ANNEALING AND PRIMER EXTENSION
IIIB
o' COPIES
REACTION 6
TEMPLATE IIIA
P4
PRIMER EXCESS
p' CYCLES OF DENATUATION ANNEALING AND PRIMER EXTENSION
IVB
p' COPIES

FIGURE 10



- PRODUCT OF A PCR REACTION IS COMPLETELY DOUBLE STRANDED



- PRODUCTS OF AN LLA REACTION CAN BE ANNEALED TO FORM A DUPLEX WITH SINGLE STRANDED ENDS

- THIS PRODUCT IS SHORTER THAN THE CORRESPONDING PCR FRAGMENT

▌ Non-replicable element

FIGURE 11

FIG.12

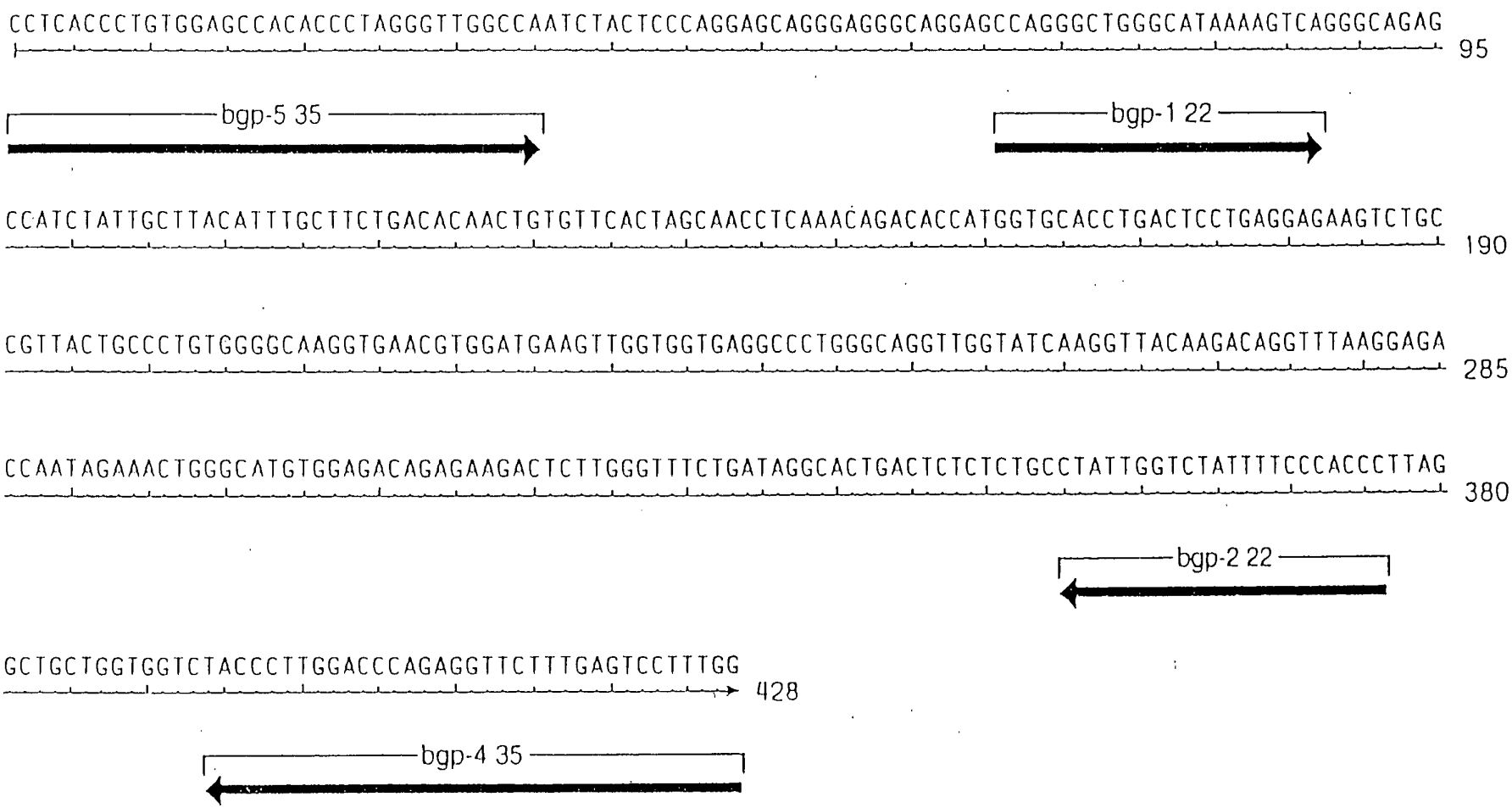
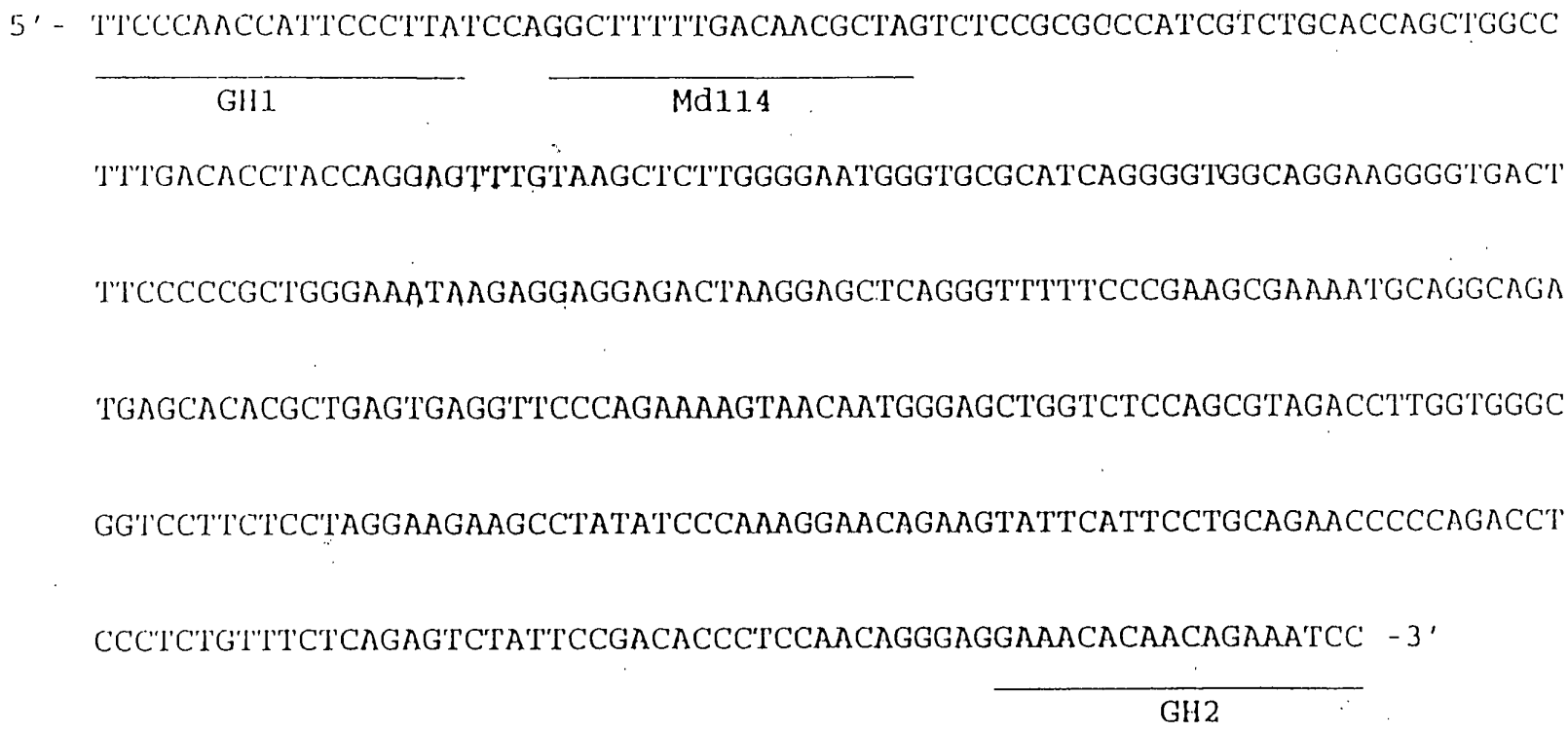

CCTCACCCTGTGGAGCCACACCCTAGGGTTGGCCAATCTACTCCCAGGAGCAGGGAGGGCAGGAGCCAGGGCTGGGCATAAAAGTCAGGGCAGAG
95
bgp-5 35
bgp-1 22
CCATCTATTGCTTACATTTGCTTCTGACACAACTGTGTTCACTAGCAACCTCAAACAGACACCATGGTGCACCTGACTCCTGAGGAGAAGTCTGC
190
CGTTACTGCCCTGTGGGGCAAGGTGAACGTGGATGAAGTTGGTGGTGAGGCCCTGGGCAGGTTGGTATCAAGGTTACAAGACAGGTTTAAGGAGA
285
CCAATAGAAACTGGGCATGTGGAGACAGAGAAGACTCTTGGGTTTCTGATAGGCACTGACTCTCTCTGCCTATTGGTCTATTTTCCCACCCTTAG
380
bgp-2 22
GCTGCTGGTGGTCTACCCTTGGACCCAGAGGTTCTTTGAGTCCTTTGG
428
bgp-4 35

FIG.13


5'- TTCCCAACCATTCCCTTATCCAGGCTTTTTGACAACGCTAGTCTCCGCGCCCATCGTCTGCACCAGCTGGCC
GH1
Md114
TTTGACACCTACCAGGAGTTTGTAAGCTCTTGGGGAATGGGTGCGCATCAGGGGTGGCAGGAAGGGGTGACT
TTCCCCCGCTGGGAAATAAGAGGAGGAGACTAAGGAGCTCAGGGTTTTTCCCGAAGCGAAAATGCAGGCAGA
TGAGCACACGCTGAGTGAGGTTCCCAGAAAAGTAACAATGGGAGCTGGTCTCCAGCGTAGACCTTGGTGGGC
GGTCCTTCTCCTAGGAAGAAGCCTATATCCCAAAGGAACAGAAGTATTCATTCCTGCAGAACCCCCAGACCT
CCCTCTGTTTCTCAGAGTCTATTCCGACACCCTCCAACAGGGAGGAAACACAACAGAAATCC -3'
GH2

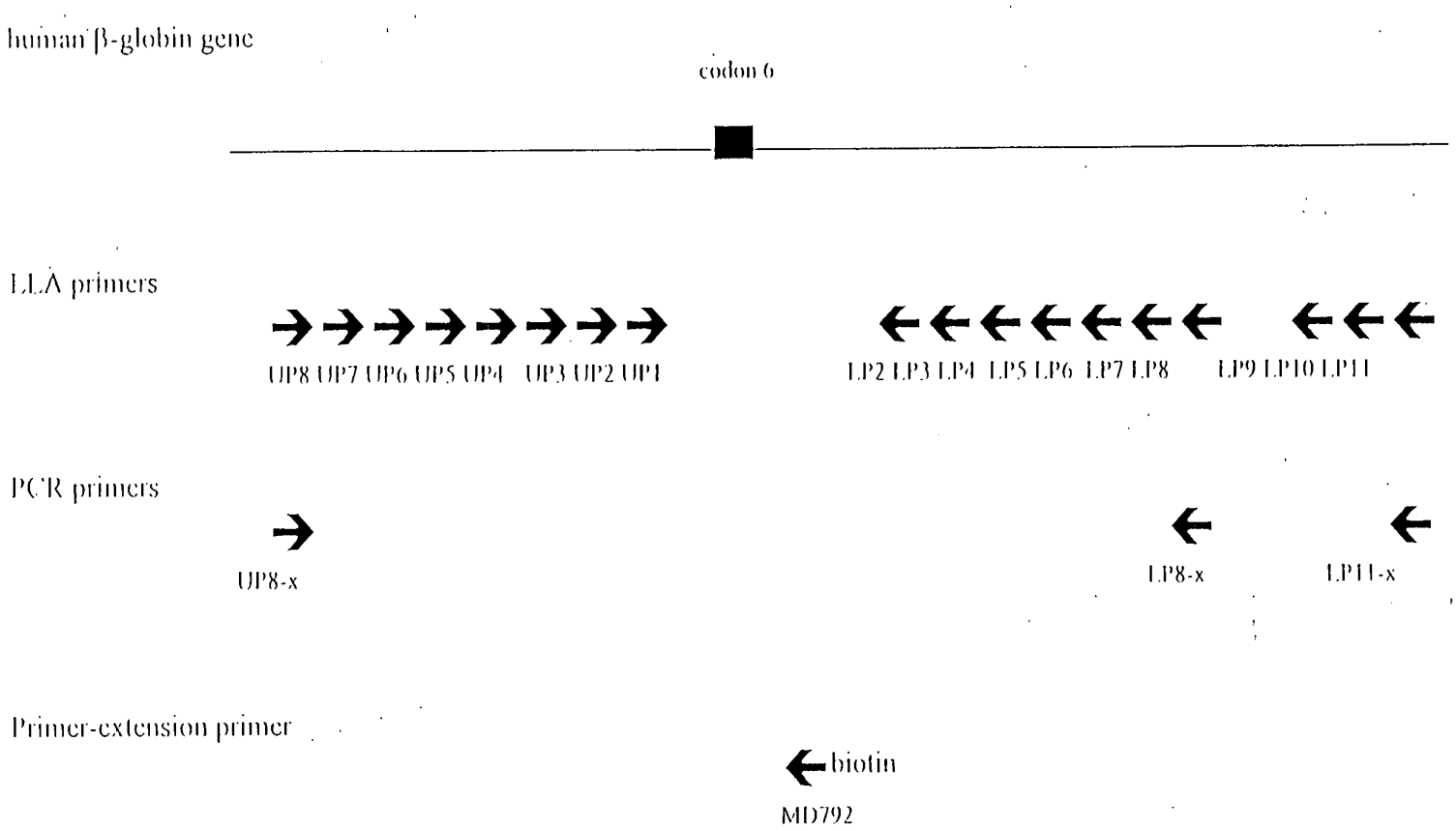

human β-globin gene
codon 6
LLA primers
UP8 UP7 UP6 UP5 UP4 UP3 UP2 UP1
LP2 LP3 LP4 LP5 LP6 LP7 LP8
LP9 LP10 LP11
PCR primers
UP8-x
LP8-x
LP11-x
Primer-extension primer
biotin
MD792

FIGURE 14

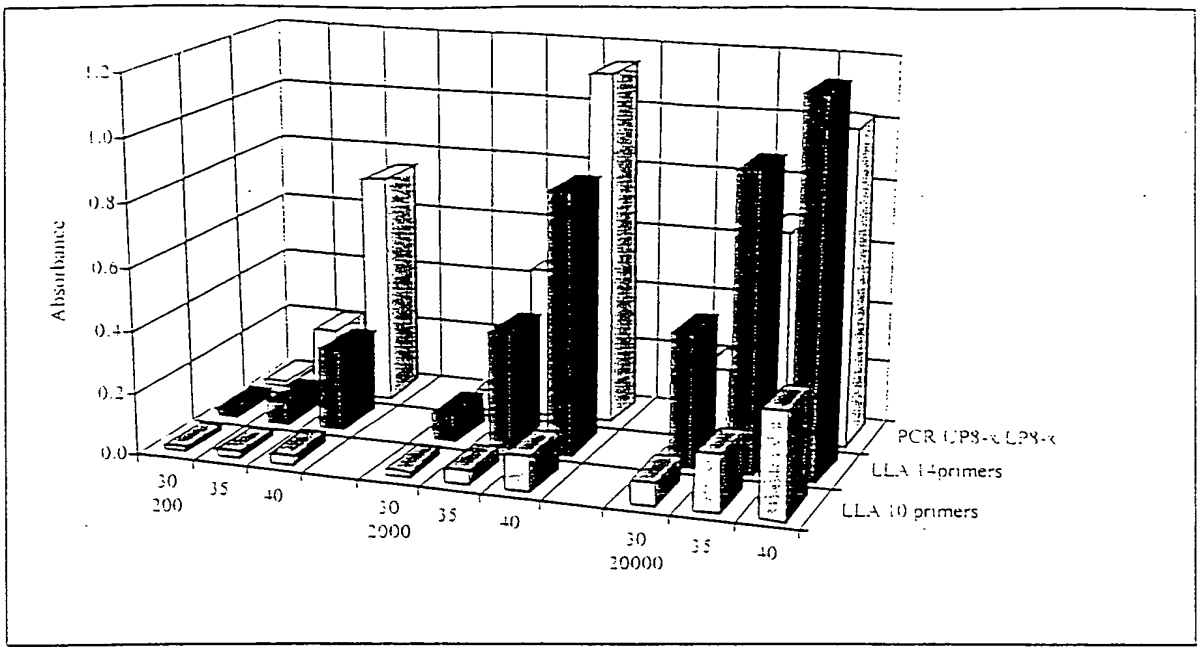


FIGURE 15A

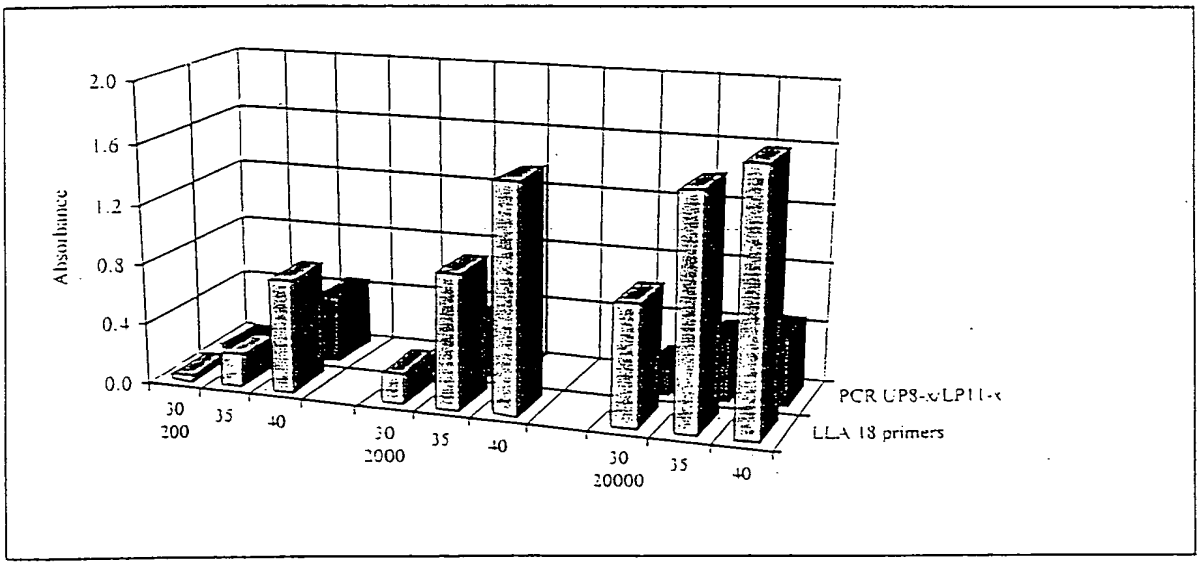


FIGURE 15B

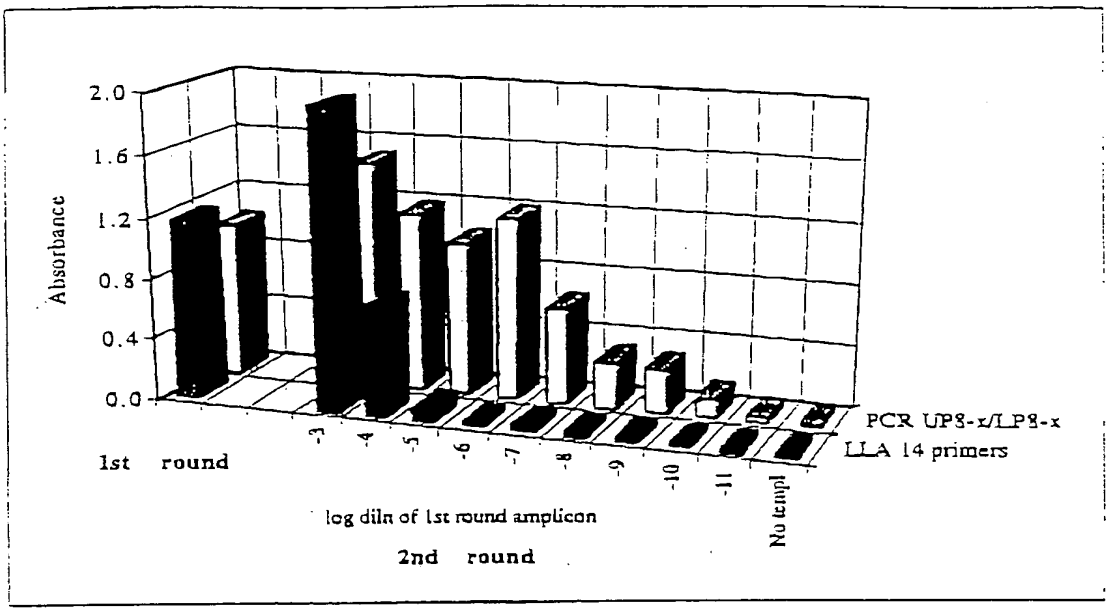

2.0
1.6
1.2
0.8
0.4
0.0
Absorbance
1st round
-3
-4
-5
-6
-7
-8
-9
-10
-11
No templ
log diln of 1st round amplicon
2nd round
PCR UP8-x/LP8-x
LLA 14 primers

FIGURE 16

FIGURE 17

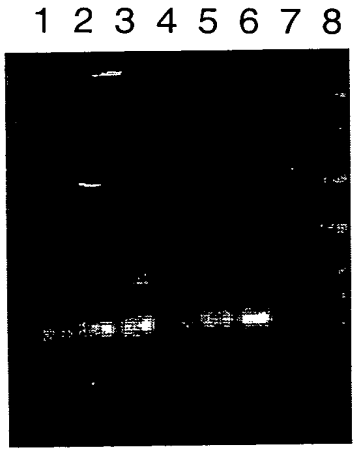
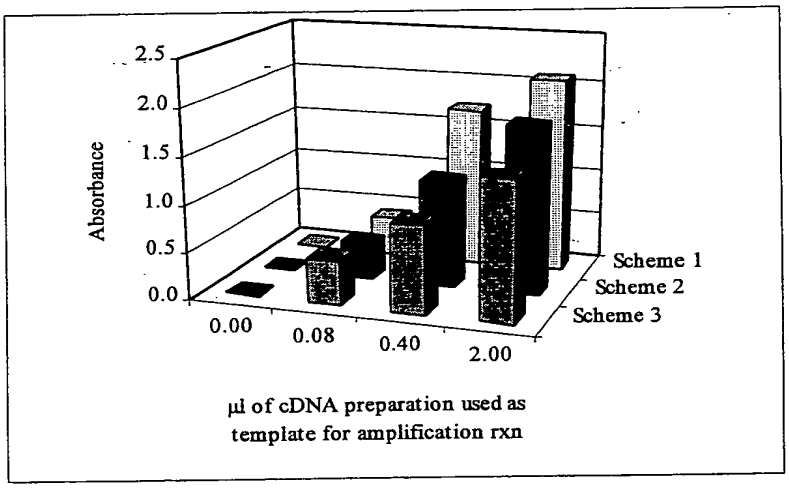


FIGURE 18


Absorbance
2.5
2.0
1.5
1.0
0.5
0.0
0.00
0.08
0.40
2.00
Scheme 1
Scheme 2
Scheme 3
µl of cDNA preparation used as template for amplification rxn